

SUPPORT FOR THE AMENDMENT

Claims 1-35, 37-45, and 47-50 were previously canceled.

Claims 36 and 52 have been amended.

The amendment of Claim 36 is supported by the originally filed claims and the specification at page 5, lines 5-8, page 7, line 26 to page 12, line 20, as well as the Examples.

Claim 52 has been amended to correct a typographical error resulting in “thaliana” improperly appearing as “thalana”.

No new matter is believed to have been introduced by the present amendment.

REMARKS

Claims 36, 46, and 51-61 are pending in the present application.

The rejection of Claims 36, 46, and 51-61 under 35 U.S.C. § 112, first paragraph (written description and enablement), is believed to be obviated by amendment.

In the outstanding Office Action, the Examiner has criticized the scope of the previously presented claims under the grounds of written description and enablement based on the breadth of homology to the protein of SEQ ID NO: 2. This rejection cites the new written description examination guidelines. In the new written description guidelines, the Office changed its position with respect to homologs where a corresponding activity is recited. In particular, the previous standard of degrees of homology of “at least 95%” with a recited activity is no longer sufficient to satisfy the written description requirement unless the specification provides a sufficient structure-function correlation.

Applicants make no statement with respect to the propriety of this allegation and in no way acquiesce to the same. Nonetheless, to expedite examination of the claimed invention, Applicants have amended the claims based on the description provided at page 5, lines 5-8 and page 7, line 26 to page 12, line 20 of the specification to more specifically define the protein appearing in the claims. In particular, Applicants have amended the claims to delete the recited activity.

With respect to the sufficiency of the disclosure for describing the claimed sequence, the Examiner’s attention is directed to Example 11a of the Written Description Training Materials (Revision 1) dated March 25, 2008, which analyzes a situation where a claim covers a polynucleotide encoding a protein that is at least 85% identical to a disclosed

sequence as presently. In these guidelines, the Office has concluded that such a claim is adequately described within the meaning of 35 U.S.C. § 112, first paragraph:

Specification:

The specification discloses a polynucleotide having the nucleic acid sequence of SEQ ID NO: 1, which encodes the polypeptide of SEQ ID NO: 2. The polypeptide of SEQ ID NO: 2 has the novel activity X, and does not share significant sequence identity with any known polypeptide or polypeptide family. The specification does not disclose any nucleic acid sequences that encode a polypeptide with novel activity X other than SEQ ID NO: 1.

Claims:

Claim 1. An isolated nucleic acid that encodes a polypeptide with at least 85% amino acid sequence identity to SEQ ID NO: 2.

* * *

Analysis:

Claim 1

Claim 1 encompasses nucleic acids that encode the polypeptide of SEQ ID NO: 2, as well as those that encode any polypeptide having 85% structural identity to SEQ ID NO: 2. However, the specification discloses only a single species that encodes SEQ ID NO: 2; *i.e.*, SEQ ID NO: 1. There are no other drawings or structural formulas disclosed that encode either SEQ ID NO: 2 or a sequence with 85% identity to SEQ ID NO: 2.

The recitation of a polypeptide with at least 85% identity represents a partial structure, that is, at least 85% percent of the amino acids in the polypeptide will match those in SEQ ID NO: 2, and up to 15% of them may vary from those in SEQ ID NO: 2. However, there is no teaching regarding which 15% of the amino acids may vary from SEQ ID NO: 2. Consequently, there is also no information given about which nucleotides will vary from SEQ ID NO: 1 in the claimed genus of nucleic acids.

There is no functional limitation on the nucleic acids of claim 1 other than that they encode the polypeptide of SEQ ID NO: 2 or any polypeptide having 85% structural identity to SEQ ID NO: 2. The genetic code and its redundancies were known in the art before the application was filed.

The disclosure of SEQ ID NO: 2 combined with the pre-existing knowledge in the art regarding the genetic code and its redundancies would have put one in possession of the genus of nucleic acids that encode SEQ ID NO: 2. With the aid of a computer, one of skill in the art could have identified all of the nucleic acids that encode a

polypeptide with at least 85% sequence identity with SEQ ID NO: 2. Thus, one of ordinary skill in the art would conclude that the applicant was in possession of the claimed genus at the time the application was filed.

Conclusion:

The specification satisfies the written description requirement of 35 U.S.C. 112, first paragraph, with respect to the scope of claim 1.

In view of the foregoing, Applicants submit that the claimed invention satisfies the written description requirement. Thus, Applicants submit that the scope defined by the currently pending claims would be reasonably understood by the skilled artisan based on the guidance proffered throughout the specification and the general knowledge in the relevant art.

Further, Applicants submit that the skilled artisan would find the practice of the present invention with the full scope of the claimed invention to be well within the purview of “ordinary skill”. This is especially true when consideration is given to the explicit examples in the present application.

Accordingly, Applicants submit that the method as claimed in the amended claims is adequately described and fully enabled. Withdrawal of these grounds of rejection is requested.

Applicants make no statement with respect to the propriety of the rejection of Claims 36, 46, and 51-61 under the judicially created doctrine of obviousness-type double patenting over claims 8-11, 19-22, 29-33, 41-44, 52-55, and 63-66 of U.S. 6,727,408 and in no way acquiesce to the Examiner’s allegation of obviousness-type double patenting. Noting that the subject matter of the claimed invention may change during prosecution of this application, which would render the obviousness-type double patenting rejection moot, Applicants request that this ground of rejection be held in abeyance until an indication of allowable subject

Application Serial No.: 10/749,386
Reply to Office Action mailed July 10, 2008

matter has been given. At that time, if necessary, Applicants will consider filing a Terminal Disclaimer.

The objection to Claim 52 is obviated by amendment to replace "thalana" with "thaliana". Withdrawal of this ground of objection is requested.

Applicants submit that the application is in condition for allowance. Early notice to this effect is earnestly solicited.

Respectfully submitted,

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